

WHAT IS CLAIMED IS:

1 1. An electronic document authenticity assurance
2 method comprising the steps of:

3 dividing an electronic document into a plurality
4 of constituent elements; and

5 affixing electronic signatures to all subsets of
6 a set including the plurality of constituent elements.

1 2. An electronic document authenticity assurance
2 method comprising the steps of:

3 dividing an electronic document into a plurality
4 of constituent elements;

5 creating data in which information specifying a
6 relationship between each of the plurality of
7 constituent elements and a structure of the electronic
8 document is bound to a respective one of the plurality
9 of constituent elements; and

10 affixing an electronic signature to the bound
11 data.

1 3. An electronic document authenticity assurance
2 method comprising the steps of:

3 dividing an electronic document into a plurality
4 of constituent elements;

5 creating data in which hash values respectively

6 calculated on the plurality of constituent elements by
7 means of a cryptographic hash function are bound to the
8 respective plurality of constituent elements; and
9 affixing an electronic signature to the bound
10 data.

1 4. An electronic document authenticity assurance
2 method comprising the steps of:
3 dividing an electronic document into a plurality
4 of constituent elements;
5 generates and binds random-numbers to the
6 respective constituent elements;
7 creating data in which hash values respectively
8 calculated on the plurality of random-numbered
9 constituent elements by means of a cryptographic hash
10 function are bound to the respective plurality of
11 random-numbered constituent elements; and
12 affixing an electronic signature to the bound
13 data.

1 5. An electronic document disclosure system
2 comprising:
3 an original document creator unit which divides an
4 electronic document into a plurality of constituent
5 elements, affixes electronic signatures to all subsets
6 of a set including the plurality of constituent elements,

7 and stores the resultant electronic document into a
8 document management unit;

9 a disclosure document creator unit which takes out
10 a disclosure object document from among electronic
11 documents stored in the document management unit, at the
12 time of acceptance of an information disclosure request,
13 creates a disclosure document in which information not
14 to be disclosed is omitted from the disclosure object
15 document, and sends the disclosure document to a
16 recipient unit; and

17 the recipient unit which verifies a signature of
18 an original document creator at the time of acceptance
19 of the disclosure document which is made published.

1 6. An electronic document authenticity assurance
2 method using a unit of a third-party organ, comprising
3 the steps of:

4 dividing an electronic document into a plurality
5 of constituent elements; and

6 depositing all subsets of a set including the
7 plurality of constituent elements into the unit of the
8 third-party organ as assurance object information.

1 7. An electronic document authenticity assurance
2 method using a unit of a third-party organ, comprising
3 the steps of:

4 dividing an electronic document into a plurality
5 of constituent elements;

6 creating data in which information specifying a
7 relationship between each of the plurality of
8 constituent elements and a structure of the electronic
9 document is bound to a respective one of the plurality
10 of constituent elements; and

11 depositing the created data into the unit of the
12 third-party organ as assurance object information.

1 8. An electronic document authenticity assurance
2 method using a unit of a third-party organ, comprising
3 the steps of:

4 dividing an electronic document into a plurality
5 of constituent elements;

6 calculating hash values on the plurality of
7 constituent elements respectively by means of a
8 cryptographic hash function and depositing data in which
9 the calculated hash values are bound together into the
10 unit of the third-party organ as assurance object
11 information.

1 9. An electronic document authenticity assurance
2 method comprising the steps of:

3 dividing an electronic document into a plurality
4 of constituent elements;

5 generating random numbers for the respective
6 plurality of constituent elements and binding the random
7 numbers to the respective plurality of constituent
8 elements; and

9 calculating hash values on the respective
10 plurality of constituent elements to which the
11 respective random numbers are bound, by means of a
12 cryptographic hash function; and

13 depositing data in which the calculated hash
14 values are bound together into a unit of a third-party
15 organ as assurance object information.

1 10. An electronic document disclosure system
2 comprising:

3 an original document creator unit which deposits
4 assurance object information into a unit of a
5 third-party organ with regard to a created electronic
6 document in accordance with an electronic document
7 authenticity assurance method using the third-party
8 organ, according to any one of claims 6 to 9, and stores
9 the assurance object information into a document
10 management unit;

11 a disclosure document creator unit which takes out
12 a disclosure object document from among electronic
13 documents stored in the document management unit, at the
14 time of acceptance of an information disclosure request,

15 creates a disclosure document in which information not
16 to be disclosed is omitted from the disclosure object
17 document, and sends the disclosure document to a
18 recipient unit; and

19 the recipient unit which requests the unit of the
20 third-party organ to verify the authenticity of the
21 disclosure document, at the time of acceptance of the
22 disclosure document which is published.

1 11. A method which discloses an electronic document to
2 which an electronic signature is affixed in accordance
3 with an electronic document authenticity assurance
4 method according to any one of claims 1 to 4, comprising
5 the steps of:

6 designating as a disclosure object document the
7 electronic document to which the electronic signature
8 is affixed;

9 creating a disclosure document in which
10 information not to be disclosed is omitted from the
11 disclosure object document; and

12 further affixing a signature to the disclosure
13 document.

1 12. An electronic document disclosure system
2 according to claim 5, wherein,

3 the disclosure document creator unit affixes

4 another signature of the disclosure document creator
5 unit to the disclosure document in which the information
6 not to be disclosed is omitted.

1 13. An electronic document authenticity assurance
2 method comprising the steps of:

3 dividing an electronic document into a plurality
4 of constituent elements;

5 creating data indicative of undisclosure and
6 respectively corresponding to the plurality of
7 constituent elements;

8 calculating signature object data related to the
9 plurality of constituent elements, from the plurality
10 of constituent elements and the data indicative of
11 undisclosure and respectively corresponding to the
12 plurality of constituent elements;

13 binding together the calculated signature object
14 data; and

15 affixing an electronic signature to the bound
16 data.

1 14. An electronic document disclosure method
2 comprising the steps of:

3 if first information not to be disclosed is
4 included in constituent elements which constitute a
5 signed electronic document created in accordance with

6 an electronic document authenticity assurance method
7 according to claim 13, omitting constituent elements
8 corresponding to the first information and leaving data
9 indicative of undisclosure corresponding to the first
10 information;

11 if second information to be disclosed and not to
12 be made undisclosed in future is included in the
13 constituent elements, leaving constituent elements
14 corresponding to the second information and omitting
15 data indicative of undisclosure corresponding to the
16 second information; and

17 if third information to be disclosed and to be made
18 undisclosed in future is included in the constituent
19 elements, leaving both constituent elements and data
20 indicative of undisclosure corresponding to the third
21 information.

1 15. An electronic document disclosure system
2 comprising:

3 an original document creator unit which affixes an
4 electronic signature to a created electronic document
5 in accordance with an electronic document authenticity
6 assurance method according to claim 13, and stores the
7 obtained original document into a document management
8 unit;

9 a disclosure document creator unit which takes out

10 a disclosure object document from among electronic
11 documents stored in the document management unit, at the
12 time of acceptance of an information disclosure request,
13 and creates a disclosure document in which:

14 if first information not to be disclosed is
15 included in constituent elements included in the
16 disclosure object document, constituent elements
17 corresponding to the first information are omitted and
18 data indicative of undisclosure corresponding to the
19 first information are left;

20 if second information to be disclosed and not to
21 be made undisclosed in future is included in the
22 disclosure object document, constituent elements
23 corresponding to the second information are left and
24 data indicative of undisclosure corresponding to the
25 second information are omitted; and

26 if third information to be disclosed and to be made
27 undisclosed in future is included in the disclosure
28 object document, both constituent elements and data
29 indicative of undisclosure corresponding to the third
30 information are left, and

31 the disclosure document is created and is sent to
32 a recipient unit; and

33 the recipient unit which verifies the authenticity
34 of an original document creator, at the time of
35 acceptance of the disclosure document which is

36 published.